FIG. 1

10

Coil 1   Coil 0

Fig. 2

16

Coil 2   Coil 3   12

Fig. 4

14

Image
Intensity

X   Y

16   14   14

16

Phase
Encode
Direction

Fig. 3

Fig. 5

Calibration FOV ~14

16

Image Intensity
$\uparrow$
$\rightarrow$ y

Phase encode direction $\rightarrow$

edge   edge

Calibration image

Fig. 6

Reduced FOV (D)

16

Image Intensity
$\uparrow$
$\rightarrow$ y

Aliasing replicate   Aliasing replicate

2   1   2

Number of aliasing replicates

SENSE image

Start → Determine parameters For calibration scan ~202   ↙ 200

Acquire calibration data ~204

Reconstruct calibration image ~210

Calculate coil sensitivity ~212

Interpolate to SENSE image plane ~214

Find edges ~216

Extrapolate sensitivities ~218

Extend edges ~219

Calculate number of aliased replicates ~220

Populate sensitivity matrix ~221

Unwrap SENSE images ~222

Last iteration? ~224

End

Acquire SENSE data ~206

Reconstruct aliased SENSE image ~208

Find edges in superimposed image ~226

Superimpose calibration and SENSE images ~230

Fig. 7

Fig. 8

Image Intensity

y

Normal FOV

Normal image

Fig. 9

Image Intensity

y

D

Aliasing replicates

SENSE image before unwrapping

Fig. 10

Image Intensity

y

Calibration FOV

Unwrapped SENSE image FOV (Normal FOV)

Combination image